

Item Difficulty and Response Gap Analysis by District

This report displays each item's district success rate compared to BOCES component districts, the regional success rate (aggregate of all WNY student data), along with gap to BOCES, gap to Region, distribution of MC responses (correct response highlighted, and optional negative gap highlighted) and CR points, for the assessment and school year selected.

Tonawanda Grade 4 Sci: Scale - Jun 30, 2011

Item Difficulty and Response MC Questions - Gap & Distribution of Responses

Standard	Performance Indicator	Question	District Success Rate (147)	Erie 1 BOCES (5,262)	Regional Success Rate (32320)	GAP to Erie 1 BOCES	GAP to Region	Resp (A)	Resp (B)	Resp (C)	Resp (D)	Invalid Resp	Total Correct	Total Incorrect
Living environment	1.1c Nonliving things do not live and thrive.	15-MC	95.9%	98.31%	97.33%	-2.39%	-1.41%	4	141	1	1	0	141	6
	2.1b Some characteristics result from an individual's interactions with the environment. . .	16-MC	87.1%	85.88%	81.85%	1.19%	5.22%	128	4	6	9	0	128	19
	2.2a Plants and animals closely resemble their parents and other individuals in their species.	17-MC	77.6%	84.57%	80.82%	-7.02%	-3.27%	13	5	114	15	0	114	33
	2.2b Plants and animals can transfer specific traits to their offspring when they reproduce.	18-MC	87.8%	80.01%	72.95%	7.75%	14.81%	7	129	3	7	1	129	18
	4.1d Energy and matter interact: water is evaporated by the Sun's heat. . .	19-MC	35.4%	45.32%	37.26%	-9.95%	-1.89%	16	52	70	9	0	52	95
		20-MC	81.0%	86.72%	80.23%	-5.76%	0.72%	7	119	5	16	0	119	28
	4.1e Each generation of animals goes through changes in form from young to adult.	21-MC	76.2%	82.50%	77.53%	-6.31%	-1.34%	31	3	1	112	0	112	35
	5.1a All living things grow, take in nutrients, breathe, reproduce, and eliminate waste.	22-MC	70.1%	70.66%	65.91%	-0.59%	4.16%	13	12	103	19	0	103	44
	5.2e Particular animal characteristics are influenced by changing environmental conditions. . .	23-MC	89.1%	90.92%	88.36%	-1.80%	0.76%	2	131	3	11	0	131	16
	5.3b Good health habits include hand washing and personal cleanliness. . .	24-MC	98.0%	98.35%	97.06%	-0.39%	0.90%	0	1	2	144	0	144	3
	6.1c Animals that eat plants for food may in turn become food for other animals.	28-MC	94.6%	90.57%	85.73%	3.98%	8.83%	4	139	1	3	0	139	8
	6.1d Decomposers are living things that play a vital role in recycling nutrients.	25-MC	82.3%	71.85%	66.81%	10.46%	15.50%	8	4	121	13	1	121	26

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Item Difficulty and Response MC Questions - Gap & Distribution of Responses

Standard	Performance Indicator	Question	District Success Rate (147)	Erie 1 BOCES (5,262)	Regional Success Rate (32320)	GAP to Erie 1 BOCES	GAP to Region	Resp (A)	Resp (B)	Resp (C)	Resp (D)	Invalid Resp	Total Correct	Total Incorrect
Living environment	6.2c Heat energy from the Sun powers the water cycle. . .	26-MC	88.4%	76.78%	69.63%	11.66%	18.81%	3	9	5	130	0	130	17
	7.1b Over time humans have changed their environment by cultivating crops and raising animals...	27-MC	94.6%	92.51%	87.91%	2.05%	6.65%	1	4	139	3	0	139	8
Physical setting	1.1a Natural cycles and patterns include:	02-MC	87.1%	77.99%	74.40%	9.08%	12.67%	128	16	2	1	0	128	19
		04-MC	98.0%	97.85%	96.73%	0.11%	1.23%	3	144	0	0	0	144	3
	2.1b Weather can be described and measured by temperature, wind speed, . . .	03-MC	70.7%	68.24%	65.91%	2.50%	4.84%	24	104	10	9	0	104	43
	2.1c Water is recycled by natural processes on Earth.	05-MC	95.2%	87.31%	82.97%	7.93%	12.27%	140	6	1	0	0	140	7
	3.1b Matter has properties (color, hardness, odor, sound, taste, etc.) that can be. . .	08-MC	92.5%	92.61%	88.40%	-0.09%	4.12%	1	2	8	136	0	136	11
	3.1c Objects have properties that can be observed, described, and/or measured. . .	11-MC	95.9%	95.80%	93.54%	0.12%	2.38%	2	1	3	141	0	141	6
	3.1d Measurement can be made with standard metric units and nonstandard units.	07-MC	93.2%	90.82%	84.96%	2.38%	8.24%	137	7	2	1	0	137	10
	3.2c Changes in the properties or materials of objects can be observed and described.	09-MC	76.9%	78.53%	71.62%	-1.65%	5.25%	113	5	15	14	0	113	34
	4.1a Energy exists in various forms: heat, electric, sound, chemical, mechanical, light.	10-MC	83.0%	83.03%	81.09%	-0.04%	1.90%	122	3	1	21	0	122	25
		12-MC	98.6%	97.72%	96.50%	0.92%	2.14%	1	0	145	1	0	145	2
	4.1b Energy can be transferred from one place to another.	14-MC	94.6%	97.43%	96.40%	-2.88%	-1.84%	2	5	1	139	0	139	8

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Tonawanda Grade 4 Sci: Scale - Jun 30, 2011

Item Difficulty and Response MC Questions - Gap & Distribution of Responses

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Physical setting	5.1c The force of gravity pulls objects toward the center of Earth.	06-MC	69.4%	70.52%	67.75%	-1.14%	1.64%	102	14	30	1	0	102	45
	5.1d The amount of change in the motion of an object is affected by friction.	13-MC	77.6%	62.22%	59.07%	15.33%	18.48%	5	3	114	25	0	114	33
Standard 1	M1.1b Select the appropriate operation to solve mathematical problems.	01-MC	81.6%	86.91%	82.99%	-5.27%	-1.36%	1	9	17	120	0	120	27
Standard 6	Key Idea 2-Models	29-MC	76.2%	78.64%	72.32%	-2.45%	3.87%	112	14	8	13	0	112	35
		30-MC	92.5%	82.73%	76.50%	9.79%	16.02%	1	6	136	4	0	136	11

Tonawanda Grade 4 Sci: Scale - Jun 30, 2011

Item Difficulty and Response CR Questions - Gap & Distribution of Points

Standard	Performance Indicator	Question	District Success Rate (147)	Erie 1 BOCES (5,262)	Regional Success Rate (32320)	GAP to Erie 1 BOCES	GAP to Region	Max Value	CR Points 0	CR Points 1	CR Points 2	CR Points 3	CR Points 4	CR Points 5
Living environment	1.1b Humans organize time into units based on natural motions of Earth: second, minute, hour. . .	39-CR	87.8%	85.59%	82.29%	2.16%	5.47%	1	18	129	0	0	0	0
	3.1a Each animal has different structures that serve different functions in growth. . .	41-CR	89.8%	88.71%	83.58%	1.08%	6.22%	1	15	132	0	0	0	0
	3.1b Each plant has different structures that serve different functions in growth. . .	38-CR	78.9%	76.36%	67.44%	2.55%	11.47%	2	20	22	105	0	0	0
	3.1c In order to survive in their environment, plants and animals must be adapted to. . .	40-CR	68.0%	72.88%	63.37%	-4.85%	4.66%	2	38	18	91	0	0	0

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Performance Station 1	3.1a Matter takes up space and has mass. Two objects cannot occupy the same place at the same time.	STA1-3	85.7%	84.82%	79.14%	0.90%	6.57%	1	21	126	0	0	0	0
	M1.1b Select the appropriate operation to solve mathematical problems.	STA1-5	56.5%	70.30%	61.82%	-13.83%	-5.36%	3	33	32	29	53	0	0
	M3 Critical thinking skills are used in the solution of mathematical problems.	STA1-1a	57.1%	66.31%	58.07%	-9.16%	-0.93%	1	63	84	0	0	0	0
		STA1-1b	53.7%	50.10%	43.18%	3.65%	10.56%	1	68	79	0	0	0	0
		STA1-2	85.0%	84.06%	78.01%	0.97%	7.02%	2	13	18	116	0	0	0
		STA1-4	85.7%	91.33%	85.60%	-5.62%	0.11%	1	21	126	0	0	0	0
Performance Station 2	S1.3 Develop relationships among observations to construct descriptions. . .	STA2-2	76.2%	72.02%	65.75%	4.17%	10.44%	3	20	11	23	93	0	0
	S3.1 Organize observations and measurements of objects and events. . .	STA2-1	90.8%	94.72%	93.80%	-3.90%	-2.98%	2	6	15	126	0	0	0
		STA2-3	89.8%	93.03%	90.97%	-3.23%	-1.17%	2	11	8	128	0	0	0
	S3.2 Interpret organized observations and measurements. . .	STA2-4	61.9%	61.27%	54.63%	0.64%	7.27%	2	42	28	77	0	0	0
Performance Station 3	S2.3 Carry out their plans for exploring phenomena. . .	STA3-1	91.5%	91.61%	88.10%	-0.11%	3.40%	2	5	15	127	0	0	0
	S3.2 Interpret organized observations and measurements. . .	STA3-2	84.4%	82.73%	77.10%	1.63%	7.25%	1	23	124	0	0	0	0
		STA3-3	77.6%	75.37%	69.01%	2.18%	8.54%	1	33	114	0	0	0	0
	S3.4 Adjust their explanations and understandings of objects based on their findings. . .	STA3-5	61.6%	63.66%	57.70%	-2.10%	3.86%	2	24	65	58	0	0	0

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Performance Station 3	T1 Engineering design is an interactive process involving modeling and optimization. . .	STA3-4	60.9%	73.22%	67.80%	-12.34%	-6.92%	2	22	71	54	0	0	0	
Physical setting	3.1e The material(s) an object is made up of determine some specific properties. . .	33-CR	62.2%	61.79%	57.48%	0.45%	4.76%	2	16	79	52	0	0	0	
	4.1c Some materials transfer energy better than others (heat and electricity).	34-CR	63.9%	71.38%	61.83%	-7.43%	2.12%	1	53	94	0	0	0	0	
	5.1a The position of an object can be described by locating it relative to another object. . .	35-CR	56.5%	69.65%	69.43%	-13.19%	-12.97%	1	64	83	0	0	0	0	
	5.1f Mechanical energy may cause change in motion through the application of force. . .	36-CR	94.6%	86.72%	82.83%	7.84%	11.73%	1	8	139	0	0	0	0	
	5.2b The force of magnetism on objects decreases as distance increases.	37-CR	88.4%	87.34%	80.72%	1.09%	7.72%	1	17	130	0	0	0	0	
Standard 1	M3.1a Use appropriate scientific tools. . .to solve problems about the natural world.	31-CR	72.1%	72.16%	67.89%	-0.05%	4.22%	1	41	106	0	0	0	0	
	S3.2 Interpret organized observations and measurements. . .	32-CR	91.2%	93.42%	91.32%	-2.27%	-0.16%	1	13	134	0	0	0	0	
Standard 6	Key Idea 2-Models	42-CR	96.6%	88.37%	83.14%	8.23%	13.46%	1	5	142	0	0	0	0	